



MATERIAL SAFETY DATA SHEET

VDX - VDX DRY LUBRICANT SPRAY, AEROSOL

1 IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

PRODUCT NAME	VDX - VDX DRY LUBRICANT SPRAY, AEROSOL
PRODUCT NO.	MCC-VDX
PRODUCT USE	Cleaning agent.
SUPPLIER	MICROCARE CORPORATION 595 John Downey Drive New Britain, CT 06051 United States of America CAGE: OATV9 +1 860-827-0626 +1 860-827-8105 techsupport@microcare.com
EMERGENCY TELEPHONE	CHEMTREC (800) 424-9300
IDENTIFICATION No.	UN1950

2 HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

White / off-white. Creamy liquid. Odor of alcohol. Aerosol. This product is not flammable. Liquid may irritate the skin. Spray and vapor in the eyes may cause irritation and smarting. No specific ventilation requirements noted, except this product must not be used in a confined space without good ventilation. Keep out of the reach of children.

PHYSICAL AND CHEMICAL HAZARDS

Vapors are heavier than air and may travel along the floor and in the bottom of containers. Considering the limited amount applied during use and the size of the container, the risk of adverse effects is considered small. Gas or vapor displaces oxygen available for breathing (asphyxiant).

HUMAN HEALTH

Prolonged skin contact may cause redness, irritation and dry skin. Mild dermatitis, allergic skin rash.

POTENTIAL HEALTH EFFECTS

INHALATION

Vapors may irritate the respiratory system and cause coughing, asthmatic breathing and breathlessness.

INGESTION

May cause stomach pain or vomiting. May cause nausea, headache, dizziness and intoxication.

SKIN CONTACT

Acts as a defatting agent on skin. May cause cracking of skin, and eczema.

EYE CONTACT

May cause temporary eye irritation.

MEDICAL SYMPTOMS

High concentrations of vapors may irritate respiratory system and lead to headache, fatigue, nausea and vomiting.

CARCINOGENICITY

This substance has no evidence of carcinogenic properties.

3 COMPOSITION/INFORMATION ON INGREDIENTS

Name	EC No.	CAS-No.	Content %
HFC-134a Tetrafluoroethane	212-377-0	811-97-2	90-100%
Poly-tfe,alpha-chloro-omega		79070-11-4	1-5%
Poly-tfe,omega-hydro-alpha-(methylcyclohexyl)		65530-85-0	1-5%
PROPAN-2-OL	200-661-7	67-63-0	5-10%

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4 FIRST-AID MEASURES

GENERAL INFORMATION

NEVER MAKE AN UNCONSCIOUS PERSON VOMIT OR DRINK FLUIDS! Place unconscious person on the side in the recovery position and ensure breathing can take place. Perform artificial respiration if breathing has stopped. Consult a physician for specific advice.

INHALATION

Remove victim immediately from source of exposure. Move into fresh air and keep at rest. If respiratory problems, artificial respiration/oxygen. Get medical attention.

INGESTION

Do not induce vomiting. If vomiting occurs, the head should be kept low so that stomach vomit doesn't enter the lungs. Do not give victim anything to drink if he is unconscious. Promptly get affected person to drink large volumes of water to dilute the swallowed chemical. Get medical attention.

SKIN CONTACT

Remove contaminated clothes and rinse skin thoroughly with water.

EYE CONTACT

Promptly wash eyes with plenty of water while lifting the eye lids. Make sure to remove any contact lenses from the eyes before rinsing. Consult a physician for specific advice.

5 FIRE-FIGHTING MEASURES

EXTINGUISHING MEDIA

This product is not flammable. Use fire-extinguishing media appropriate for surrounding materials.

SPECIAL FIRE FIGHTING PROCEDURES

Move container from fire area if it can be done without risk.

UNUSUAL FIRE & EXPLOSION HAZARDS

Aerosol containers can explode when heated, due to excessive pressure build-up.

SPECIFIC HAZARDS

Avoid contact with naked flames and hot surfaces as corrosive and toxic decomposition products can be formed.

PROTECTIVE MEASURES IN FIRE

Self contained breathing apparatus and full protective clothing must be worn in case of fire.

6 ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS

Warn everybody of potential hazards and evacuate if necessary. Ventilate well, avoid breathing vapors. Use approved respirator if air contamination is above accepted level.

ENVIRONMENTAL PRECAUTIONS

Contain spillages with sand, earth or any suitable adsorbent material. Avoid release to the environment.

SPILL CLEAN UP METHODS

Provide ventilation and confine spill. Do not allow runoff to sewer. Wear necessary protective equipment. Extinguish all ignition sources. Avoid sparks, flames, heat and smoking. Ventilate. Collect with absorbent, non-combustible material into suitable containers.

7 HANDLING AND STORAGE

HANDLING

Provide good ventilation. Avoid inhalation of vapors/spray and contact with skin and eyes. Avoid contact with naked flames and hot surfaces as corrosive and toxic decomposition products can be formed. Keep out of the reach of children.

STORAGE

Aerosol cans: Must not be exposed to direct sunlight or temperatures above 50°C.

8 EXPOSURE CONTROLS/PERSONAL PROTECTION

PROTECTIVE EQUIPMENT



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ENGINEERING MEASURES

No specific ventilation requirements noted, except this product must not be used in a confined space without good ventilation.

RESPIRATORY EQUIPMENT

Considering the size of the packaging, the risk is regarded as minimal. Vapors are heavier than air and may travel along the floor and in the bottom of containers. At work in confined or poorly ventilated spaces, respiratory protection with air supply must be used.

Self-contained breathing apparatus with full facepiece.

HAND PROTECTION

For prolonged or repeated skin contact use suitable protective gloves. Gloves of nitrile rubber, PVA or Viton are recommended.

EYE PROTECTION

Wear approved, tight fitting safety glasses where splashing is probable.

OTHER PROTECTION

Wear suitable protective clothing as protection against splashing or contamination.

HYGIENE MEASURES

No specific hygiene procedures noted, but good personal hygiene practices are always advisable, especially when working with chemicals. When using do not eat, drink or smoke.

SKIN PROTECTION

Wear apron or protective clothing in case of splashes.

9 PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE	Liquid Gas
COLOR	White / off-white. Waxy
ODOR	Slight odor of alcohol.
PHYSICAL DATA COMMENTS	Aerosol.
VOLATILITY DESCRIPTION	Volatile
SOLUBILITY	Insoluble in water
Flammability	This product is not flammable.
BOILING POINT (°C)	-26.5 C / -15.7 F
PARTICLE SIZE (Micron)	1-15
VAPOR DENSITY (air=1)	3.18 @ 25 C / 77 F
VAPOR PRESSURE	4972 mm Hg 16.7 C / 62 F
VOLATILE BY VOL. (%)	98.5

10 STABILITY AND REACTIVITY

STABILITY

Stable under normal temperature conditions and recommended use.

CONDITIONS TO AVOID

Avoid contact with naked flames and hot surfaces as corrosive and toxic decomposition products can be formed.

HAZARDOUS POLYMERISATION

Will not polymerise.

MATERIALS TO AVOID

Alkali metals. Alkali earth metals. Powdered metal.

HAZARDOUS DECOMPOSITION PRODUCTS

When heated, toxic and corrosive vapors/gases may be formed. Halogenated hydrocarbons. Hydrogen fluoride (HF). Carbon dioxide (CO₂). Carbon monoxide (CO).

11 TOXICOLOGICAL INFORMATION

Name	PROPAN-2-OL
Toxic Dose 1 - LD 50	5045 mg/kg (oral rat)
Toxic Dose 2 - LD 50	3600 mg/kg (oral-mouse)
Toxic Conc. - LC 50	16,000 ppm/1h (inh-rat)

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Name	HFC-134a Tetrafluoroethane
Toxic Dose 1 - LD 50	>2085 mg/kg (oral rat)
Other Health Effects	This substance has no evidence of carcinogenic properties.
Name	Poly-tfe,alpha-chloro-omega
Name	Poly-tfe,omega-hydro-alpha-(methylcyclohexyl)

12 ECOLOGICAL INFORMATION

LC 50, 96 Hrs, FISH mg/l	450 mg/L
EC 50, 48 Hrs, DAPHNIA, mg/l	980 mg/L

DEGRADABILITY

The product is not expected to be biodegradable.

Name	PROPAN-2-OL
LC 50, 96 Hrs, Fish mg/l	9,640
EC 50, 48 Hrs, Daphnia, mg/l	5102
IC 50, 72 Hrs, Algae, mg/l	>2,000
Name	HFC-134a Tetrafluoroethane
LC 50, 96 Hrs, Fish mg/l	450
EC 50, 48 Hrs, Daphnia, mg/l	980
Name	Poly-tfe,alpha-chloro-omega
	Poly-tfe,omega-hydro-alpha-(methylcyclohexyl)

13 DISPOSAL CONSIDERATIONS**WASTE MANAGEMENT**

Waste to be treated as controlled waste. Disposal to licensed waste disposal site in accordance with local Waste Disposal Authority.

DISPOSAL METHODS

Dispose of waste and residues in accordance with local authority requirements. Empty containers must not be burned because of explosion hazard. Aerosol containers can explode when heated, due to excessive pressure build-up. Recover and reclaim or recycle, if practical.

14 TRANSPORT INFORMATION

DOT PROPER SHIPPING NAME	AEROSOLS
TDG SHIPPING NAME	AEROSOLS
ENVIRONMENTALLY HAZARDOUS SUBSTANCE/MARINE POLLUTANT	No.
IDENTIFICATION No.	UN1950
CEFIC TEC(R) NO.	20G53
DOT HAZARD CLASS	2.2
DOT PACKING GROUP	N/A
MARKINGS	ORM-D
UN NO. SEA	1950
IMDG CLASS	2.2
IMDG PACK GR.	N/A
MFAG	See Subsection 4.2 of MFAG.
UN NO. AIR	1950

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AIR CLASS 2.2
AIR SUB CLASS N/A
AIR PACK GR. N/A
TDG PACKING GROUP N/A

15 REGULATORY INFORMATION

INVENTORIES

COMPONENT	CAN	US	EU	AUS	JAP	KOR	CHN	PHLP
PROPAN-2-OL	DSL	Yes.						
HFC-134a Tetrafluoroethane	DSL	Yes.						

COMPONENT	TSCA 12(b) Export Notification
HFC-134a Tetrafluoroethane	No.

SARA (311/312) HAZARD CATEGORIES

Acute Chronic Pressure

REGULATORY STATUS (US)

TSCA: The ingredients of this product are on the TSCA Inventory.

REGULATORY REFERENCES

NFPA30 Flammable and Combustible Liquids Code. 29 CFR 1910.1010 Federal Regulations (OSHA Standard).

WORKPLACE HAZARDOUS MATERIALS INFORMATION SYSTEM -WHMIS

LABEL(S) FOR SUPPLY



Compressed Gas.



Materials Causing Other Toxic Effects.

CONTROLLED PRODUCT CLASSIFICATION

Canadian WHMIS Classification A D2B DSL WORKPLACE HAZARDOUS MATERIALS INFORMATION SYSTEM (CPR SECTION (33))

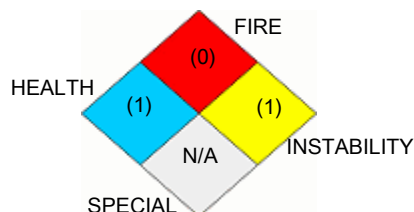
This product has been classified according to the hazard criteria of the Controlled Product Regulations, and the MSDS contains all required information.

16 OTHER INFORMATION

HAZARDOUS MATERIAL INFORMATION SYSTEM (HMIS)

HEALTH		1
FLAMMABILITY		0
PHYSICAL		1
PERSONAL PROTECTION		B

NATIONAL FIRE PROTECTION ASSOCIATION (NFPA)



REVISION COMMENTS

NOTE: Lines within the margin indicate significant changes from the previous revision.

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Approved.
DATE 08/19/09

DISCLAIMER

This information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process. Such information is, to the best of the company's knowledge and belief, accurate and reliable as of the date indicated. However, no warranty guarantee or representation is made to its accuracy, reliability or completeness. It is the user's responsibility to satisfy himself as to the suitability of such information for his o